

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE (DD-MM-YYYY) 14-08-2012		2. REPORT TYPE Final		3. DATES COVERED (From - To) 11-03-2009 to 30-06-2012	
4. TITLE AND SUBTITLE Final Report, Aging Systems Sustainment and Enabling Technologies				5a. CONTRACT NUMBER SP4701-09-C-0002	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Dr. Joseph W. Alexander Amy Dronberger Paul McDaniel				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) OSU Enterprise Center, LLC 505 South Main Street Stillwater, OK 74074-4058				8. PERFORMING ORGANIZATION REPORT NUMBER A09-12	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Defense Logistics Agency (DLA) Defense Technical Information Center 8725 John J. Kingman Road Fort Belvoir, VA 22060-6218				10. SPONSOR/MONITOR'S ACRONYM(S) DLA	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S) A09-12	
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution unlimited.					
13. SUPPLEMENTARY NOTES Not applicable.					
14. ABSTRACT With the goal of decreasing unit costs, decreasing projected lead times, and increasing sources for government problem parts, the Aging System Sustainment and Enabling Technologies contract developed a consortium of manufacturing member companies. With a total of 26 subcontract projects completed to various stages, 22 of these projects have resulted in new sources. Potential application of these efforts could result in a savings of \$8,775,503.00 over a 5 year period and projections indicate the lead time could reductions could exceed 50 percent.					
15. SUBJECT TERMS Not applicable.					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES 10	19a. NAME OF RESPONSIBLE PERSON Dr. Joseph W. Alexander
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified			19b. TELEPHONE NUMBER (include area code) 405-744-2325



## OSU Enterprise Center, LLC

505 South Main Street  
Stillwater, OK 74074-4058

### Final Report

**Aging Systems Sustainment and Enabling Technologies (ASSET)**

**August 14, 2012**

**Reporting Period: March 11, 2009 – June 30, 2012**

*Prepared for:*

**Defense Logistics Agency (DLA)**  
Defense Technical Information Center,  
Attn: DTIC-O,  
8725 John J. Kingman Road,  
Fort Belvoir, VA 22060-6218

Under Contract Number:

**SP4701-09-C-0002**

*Submitted by:*

Dr. Joseph W. Alexander, Principle Investigator  
(405) 744-2325; joseph.alexander@okstate.edu

#### **Distribution Statement A**

Approved for public release: distribution unlimited.

#### **Government Data Rights**

The Government is granted for itself and others acting on its behalf a paid-up, nonexclusive, irrevocable worldwide license in the work to reproduce, prepare derivative works, and perform publicly by or on behalf of the Government. The Government has unlimited rights in technical data submitted to the Government for source approval by subcontractors awarded subcontracts under the above prime contract.

**UNCLASSIFIED**

20120821357

## **ASSET III FINAL REPORT**

**CONTRACT # SP4701-09-C-0002**

**PERFORMANCE PERIOD March 09, 2009 – June 30, 2012**

The final report for SP4701-09-C-0002 consists of four sections; compliance with the technical proposal, budgetary overview, subcontract project results, and deliverables.

### **Compliance with Technical Proposal Tasks**

Through the OSU Enterprise Center, LLC, the Oklahoma State University Aging Systems Sustainment and Enabling Technologies (ASSET) program augments American military readiness by expanding the Department of Defense (DoD) manufacturing source base for producing problem-parts for aging aircraft and weapon systems. Using the eight steps to success outlined in the proposal, ASSET strives to deliver parts more rapidly and more cost effectively than previous parts suppliers by mobilizing a network of small to medium size companies, assuring competition and responsiveness.

### **Member Company Interface**

Key efforts are directed toward supporting companies desiring to become members of the ASSET consortium. At the time the ASSET III contract was awarded, 212 companies, involved in a previous contract, were members of the ASSET consortium and 104 of those companies had the required certification credentials to bid on DoD contracts. After interfacing with companies throughout Oklahoma and the United States, at the end of the contract we had 277 member companies with 162 of those companies having the required certification credentials to bid on DoD contracts.

### **Problem Parts Evaluation and Approval**

Utilizing the capabilities of these consortium companies, the ASSET team solicited bids for subcontract projects. Upon identification of problem parts and evaluation and approval of solicitations, the ASSET team was able to meet their goal of augmenting American military readiness.

The results of the projects identified for insertion which resulted in subcontracts will be summarized in section three (Sub-Contract Project Results) and six performance measurement elements are listed on page seven of the proposal. Performance measurements one (Number of DIBBS responses by ASSET companies), two (Number of Source Approval Requests submitted), and six (Number of Source Approval Request approvals accepted) will be summarized below.

### **Member Company Follow-on Activities**

The number of DIBBS responses by ASSET companies total approximately 22,000 over the life of the ASSET III contract. A total of \$181.3 million in follow-on contracts were awarded which amounts to an approximate average of \$8,250.00 per award. While at differing stages of completion and acceptance within DLA, eleven Source Approval Requests were completed over the life of the ASSET III contract. Of these 11 completed SAR packages, one has been approved by DLA with nine ready for submission at the next solicitation and one is working through iterations into its final form with DLA aviation. The remaining three performance elements listed on page seven of the proposal will be addressed in section three of the final report.

### **Quality Assurance Assistance to Member Companies**

An additional element discussed in the proposal is the ASSET team's assistance to firms joining ASSET and responding to ASSET approved projects. These firms were audited for



requirements that include an active CAGE Code, an active JCP (DD 2345) and baseline audit of a Quality Management System (QMS). Site visits were conducted with local firms and out-of-state firms were validated via e mail communications and through the CCR web site.

All firms were classified into basic categories that were provided with assistance to be compliant for new supplier source opportunities. These categories were; (1) Update or apply for CAGE Code, (2) apply/confirm JCP, (3) validate capabilities, (4) perform baseline audit of current QMS, (5) initiate/provide ISO 9001-2008 template, (6) perform ISO based overview , (7) perform follow up audits when QMS system is in place. Several firms were confirmed to be, ISO 9001-2008 compliant or ISO 9001-2008 registered or registered AS 9100 Rev C firms. Based upon the classification of the ASSET projects, each firm was provided with assistance to obtain either ISO 9001 or AS 9100 registration in order to be eligible as a new source for open solicitations requiring a certified QMS.

### **Budgetary Overview**

The ASSET III contract was awarded on March 11, 2009 in the amount of \$1,672,870.45 to cover a period of performance of 18 months. On May 5, 2009 incremental funding of \$1,686,750.00 was added to the contract changing the total amount of the contract to \$3,359,620.45. The period of performance was extended to June 30, 2012. Total expended dollars for the ASSET III contract is \$3,351,326.35. The amount expended is projected to equal 99.7% of total available not-to-exceed contractual funding. A summary of the major categories of expenditures is as follows: Salaries and Wages-35.6%, FICA and Employee Benefits-13.9%, Other Directs and Travel-6.2%, Sub Contracts-12.4%, Fee-3.3%, and Overhead(Facilities and Administrative)-28.6%.

## **Subcontract Project Results**

The ASSET awarded subcontracts typically consist of five line items. These line items included (1) Reverse Engineering and Technical Data Package, (2) Fabrication of Prototypes and Tooling, (3) First Article Inspection, (4) Comparison Lab Testing, and (5) Source Approval Request Development. Some projects were awarded with less than five line items depending upon solicitation requirements. Some projects were specifically requested by Tinker Air Force Base, and because of the nature of the project, do not have projected dollar and lead time savings. A total of 26 projects were either completed or partially completed and are summarized as follows:

**Project 1008 – EssTech Engineering** was awarded a sub-contract for \$5,800.00 for work done on NSN 5995-01-465-1582, Power Cable. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1010 – Green Country Aircraft** was awarded a sub-contract for \$17,530.00 for work done on NSN 1680-00-895-4084, Cradle Panel. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1021 – Seam Aero and ProFab, Inc.** were awarded sub-contracts totaling \$8,575.00 with each company doing separate line items. Work was done on NSN 5315-01-461-3802, Tapered Pin. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1023 – Neosource, Inc.** was awarded a sub-contract for \$6,640.00 for work done on NSN 5306-01-026-6870, Tee Bolt. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1033 – Allen and Associates** was awarded a sub-contract for \$24,550.00 for work done on NSN 5940-01-298-8562, Terminal Board. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1034 – Allen and Associates** was awarded a sub-contract for \$12,600.00 for work done on NSN 5985-00-181-0330, Antenna. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1035 – EssTech Engineering** was awarded a sub-contract for \$7,800.00 for work done on NSN 6150-01-513-1361, Cable Assembly. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1037 – Advanced Machining** was awarded a sub-contract for \$4,800.00 for work done on NSN 2540-01-556-5740, Door Retainer. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1039 – ProFab, Inc.** was awarded a sub-contract for \$11,800.00 for work done on NSN 3950-01-557-6174, Tensioner Pulley. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1042 – SBS Industries** was awarded a sub-contract for \$5,585.00 for work done on NSN 3120-01-396-2200, Bushing Sleeve. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1044 – H.F. Webster** was awarded a subcontract for \$24,892.23 for work done on a Ruddevator at Tinker Air Force Base. Effort consisted of development of a new repair process.

**Project 1045 – Genesis Metal Corp.** was awarded a sub-contract for \$8,500.00 for work done on NSN 5985-01-220-8918, Antenna Support. This was a project requested by Tinker Air Force Base. Effort consisted of Reverse Engineering and Technical Data Package as well as Fabrication of Prototypes and Tooling.

**Project 1047 – Allen and Associates** was awarded a sub-contract for \$12,980.00 for work done on NSN 5310-01-213-1047, Key Washer. See spreadsheet for projected dollar savings and projected Production Lead Time(PLT) savings.

**Project 1048 – ProFab, Inc.** was awarded a sub-contract for \$10,100.00 for work done on NSN 5340-01-516-2059, Mounting Bracket. See spreadsheet for projected dollar savings and projected Production Lead Time(PLT) savings.

**Project 1050 – H.F. Webster and Wyandotte Precision** were awarded sub-contracts totaling \$18,681.25 with each company doing separate line items. Work was done on NSN 3120-01-461-



8835, Bearing Sleeve. See spreadsheet for projected dollar savings and projected Production Lead Time(PLT) savings.

**Project 1051 – ProFab, Inc.** was awarded a sub-contract for \$5,700.00 for work done on NSN 1680-01-030-1090, Quick Release Hanger. See spreadsheet for projected dollar savings and projected Production Lead Time(PLT) savings.

**Project 1058 – ProFab, Inc.** was awarded a sub-contract for \$15,500.00 for work done on NSN 3040-01-294-4869, Shouldered Shaft. See spreadsheet for projected dollar savings and projected Production Lead Time(PLT) savings.

**Project 1062 – Pro-Fab, Inc.** was awarded a sub-contract for \$16,000.00 for work done on NSN 3040-01-442-4786, Rigid Connecting Link. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1063 – Maverick Technologies** was awarded a sub-contract for \$33,391.00 for work done on NSN 5995-01-559-0083, Cable Assembly Kit. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1106 – Redhawk EMS, Inc.** was awarded a sub-contract for \$20,482.10 for work done on NSN 3120-00-343-2652, Bearing Sleeve. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1107 – Genesis Metal Corp.** was awarded a sub-contract for \$6,400.00 for work done on NSN 5340-01-556-3272, Lug Wrench Assembly. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1108 – Sands Portable Welding** was awarded a sub-contract for \$9,932.90 for work done on NSN 5340-01-516-2058, Mounting Bracket. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1117 – Neosource, Inc.** was awarded a sub-contract for \$5,625.00 for work done on NSN 5306-01-026-6869, Tee Bolt. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

**Project 1119 – Maverick Technologies** was awarded a sub-contract for \$6,740.00 for work done on NSN 5998-00-558-6192, Circuit Card. This was a project requested by Tinker Air Force Base. Effort consisted of Reverse Engineering and Technical Data Package, Fabrication of Prototypes and Tooling, and First Article Inspection.

**Project 1120 - Maverick Technologies** was awarded a sub-contract for \$6,740.00 for work done on NSN 5998-00-558-6211, Circuit Card. This was a project requested by Tinker Air Force Base. Effort consisted of Reverse Engineering and Technical Data Package, Fabrication of Prototypes and Tooling, and First Article Inspection.

**Project 1122 – Redhawk EMS, Inc.** was awarded a sub-contract for \$24,975.51 for work done on NSN 5340-01-148-8935, Turret Stop. See spreadsheet for projected dollar savings and projected Production Lead Time (PLT) savings.

Three of the performance elements discussed on page seven of the proposal will be discussed in this section. Those three elements are the number of contracts issued to ASSET companies, amount of research and development funds used to develop Technical Data, Reverse Engineering, and Technology Insertion, and number of NSN's with sources added. A total of 28 contracts were issued to ASSET companies on a total of 26 individual projects, as some projects were split-awards with companies working on specific line items of the bid. A total of \$3,351,326.35 in research and development funds was used to develop Technical data, Reverse Engineering, and Technology Insertion.

The following spreadsheet depicts the 5-year dollar savings and average production lead time (PLT) savings which are projected to be realized. The dollar savings projection for the ASSET III contract compares favorably to the new and creative solutions discussion found on page ten of the proposal. Projections indicate that problem parts acquisition costs should be lowered by 26 percent. The production lead time projected reductions also compare favorably to the new and creative solutions discussion found on page ten of the proposal. Projections indicate that production lead time reductions will exceed 50 percent. The ASSET team attempted to do a total of 29 projects and 26 projects were either completed or partially completed which equates to a 90% success rate. Three projects were cancelled due to subcontractors' inability to perform on the awarded subcontracts. For the projects that were partially completed we will attempt to

complete those projects on the follow-on contract SP4701-11-C-0013. The spreadsheet discussed above is as follows:

Project #	Items Completed	Current Price(CP)	New Source Price(NSP)	ADV Qty.	5 Year CP Total	5 Year NSP Total	5 Year Savings	PLT - Days Savings
1008	1-5	\$171.00	\$105.00	480	\$410,400.00	\$252,000.00	\$158,400.00	165
1010	1-5	\$1,254.68	\$727.71	56	\$351,310.40	\$203,758.80	\$147,551.60	75
1021	1,2,5	\$112.50	\$90.00	2208	\$1,242,000.00	\$993,600.00	\$248,400.00	120
1023	1-5	\$82.50	\$69.00	3948	\$1,628,550.00	\$1,362,060.00	\$266,490.00	135
1033	1-5	\$365.00	\$290.00	636	\$1,160,700.00	\$922,200.00	\$238,500.00	50
1034	1	\$365.00	\$334.00	912	\$1,664,400.00	\$1,523,040.00	\$141,360.00	120
1035	1-5	\$512.00	\$300.00	840	\$2,150,400.00	\$1,260,000.00	\$890,400.00	40
1037	1-5	\$20.38	\$14.50	10476	\$1,067,504.40	\$759,510.00	\$307,994.40	30
1039	1	\$496.14	\$335.00	624	\$1,547,956.80	\$1,045,200.00	\$502,756.80	50
1042	1-5	\$34.73	\$28.87	2136	\$370,916.40	\$308,331.60	\$62,584.80	95
1047	1-5	\$1.15	\$0.99	160325	\$921,868.75	\$793,608.75	\$128,260.00	90
1048	1	\$519.00	\$375.00	268	\$695,460.00	\$502,500.00	\$192,960.00	5
1050	1-5	\$240.00	\$180.00	7040	\$8,448,000.00	\$6,336,000.00	\$2,112,000.00	100
1051	1	\$143.41	\$111.41	3260	\$2,337,583.00	\$1,815,983.00	\$521,600.00	35
1058	1	\$531.65	\$326.00	444	\$1,180,263.00	\$723,720.00	\$456,543.00	75
1062	1	\$360.00	\$265.00	1356	\$2,440,800.00	\$1,796,700.00	\$644,100.00	90
1063	1-5	\$350.00	\$305.00	480	\$840,000.00	\$732,000.00	\$108,000.00	120
1106	1-5	\$498.50	\$348.95	456	\$1,136,580.00	\$795,606.00	\$340,974.00	80
1107	1-5	\$448.61	\$165.85	558	\$1,251,621.90	\$462,721.50	\$788,900.40	0
1108	1-5	\$341.48	\$298.78	288	\$491,731.20	\$430,243.20	\$61,488.00	5
1117	1-5	\$29.25	\$25.00	16200	\$2,369,250.00	\$2,025,000.00	\$344,250.00	180
1122	1-5	\$559.95	\$335.97	100	\$279,975.00	\$167,985.00	\$111,990.00	70
							\$8,775,503.00	78.6

## Deliverables

Page ten of the initial proposal lists the required contract deliverables including conference agendas (15 days before the event), conference minutes (ten days after the event), product drawing/models as required, program plans (beginning and then 15<sup>th</sup> working day of the month), progress, status and management report (15<sup>th</sup> working day of the month), and a final and technical report upon contract closure. The ASSET program met all required deliverables and timelines. Submission of this final report satisfies the delivery of the one remaining required contract deliverable (Technical Report final at contract closure).